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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/417,332	10/13/1999	ROBERT BEDICHEK	TRANS09	7303

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EXAMINER
ELLIS, RICHARD L

ART UNIT	PAPER NUMBER
2183	4

DATE MAILED: 05/13/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.	Applicant(s)
09/417,332	Bedichek et al.
Examiner	**Group Art Unit**
Richard Ellis	2183

--The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address--

Period for Response

A SHORTENED STATUTORY PERIOD FOR RESPONSE IS SET TO EXPIRE 3 (Three) MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a response be timely filed after SIX (6) Months from the mailing date of this communication.
- If the period for response specified above is less than thirty (30) days, a response within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for response is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to respond within the set or extended period for response will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Status

☐ Responsive to communication(s) filed on _____.

☐ This action is FINAL

☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

☒ Claim(s) 1-13. is/are pending in the application.

☒ Of the above claim(s) 10-13. is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) 1-9. is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claim(s) _____ are subject to restriction or election requirement.

Application Papers

☒ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119(a)-(d)

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been

☐ received

☐ received in Application No. (Series Code/Serial Number) _____.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____.

Attachment(s)

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____

☒ Notice of References Cited, PTO-892

☒ Notice of Draftsperson's Patent drawing Review, PTO-948

☐ Interview Summary, PTO-413

☐ Notice of Informal Patent Application, PTO-152

☐ Other _____

Office Action Summary

1. Claims 1-13 presented for examination.

2. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed. The current title is imprecise.

3. Restriction to one of the following inventions is required under 35 USC § 121:

I. Claims 1-9, drawn to a method of handling exceptions arising from execution of target instructions translated from host instructions, classified in Class 712, subclass 244.

II. Claims 10-13, drawn to a method for interpreting a sequence of target instructions for statistical collection of data useful to determine when to perform a translation of the target instructions into host instructions, classified in Class 717, subclass 131.

4. The inventions are distinct, each from the other because of the following reasons:

Inventions I and II are related as combination and sub-combination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the sub-combination as claimed for patentability, and (2) that the sub-combination has utility by itself or in other combinations. (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the sub-combination as claimed because the combination as claimed (group I) does not set forth the details of the subcomination as separately claimed (group II). The sub-combination has separate utility such as use in a profile driven optimizer for a compiler to derive execution profile information for modifying the action of the compiler optimizer pass to better optimize instruction code output by the compiler.

5. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, have acquired a separate status in the art because of their recognized divergent subject matter, and the search required for group I is not required for group II, restriction for examination purposes as indicated is proper.

6. During a telephone conversation with Anthony Murabito on May 5, 2003 a provisional election was made with traverse to prosecute the invention of group I, claims 1-9. Affirmation

of this election must be made by applicant in responding to this Office action. Claims 10-13 are withdrawn from further consideration by the Examiner, 37 CFR § 1.142(b), as being drawn to a non-elected invention.

7. The following is a quotation of the appropriate paragraphs of 35 USC § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a)shall have the effects for the purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

8. The following is a quotation of 35 USC § 103 which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

(c) Subject matter developed by another person, which qualifies as prior art only under one or more of subsections (e), (f), and (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.

9. This application currently names joint inventors. In considering patentability of the claims under 35 USC § 103, the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR § 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of potential 35 USC § 102(f) or (g) prior art under 35 USC § 103.

10. Claims 1-9 are rejected under 35 USC 102(e) as being anticipated by Krishnaswamy, U.S. Patent 6,308,318.

Krishnaswamy taught (e.g. see figs. 1a-4) the invention as claimed (as per claim 1), including a data processing ("DP") system comprising:

A) a method for executing a targed application on a host processor (col. 1 lines 5-12) comprising the steps of;

B) translating into host instrutions each of a sequence of target instructions (fig. 2, 22);

C) storing the translated host instructions (fig. 2, 23, "UPDATE CODE CACHE");

D) executing the stored host instructions (fig. 2, 19, "YES", 24);

E) responding to an exception during execution of a stored translated instruction by rolling back to a point in execution at which correct state of a target processor is known (fig. 4, "ASYNC. EXCEPTION HAS OCCURRED", 32, "NO", 35);

F) interpreting each target instruction in order from the point in execution at which correct state of a target processor is known (fig. 4, 37).

11. As to claim 2, Krishnaswamy taught collecting statistics regarding the execution of sequences of instructions which are interpreted (fig. 2, "HOT CODE", col. 5 lines 3-6).

12. As to claim 3-4, they do not teach or define above the invention claimed in claims 1-2 and is therefore rejected under Krishnaswamy for the same reasons set fourth in the rejection of claims 1-2, supra.

13. As to claim 5, Krishnaswamy taught that the statistics included the number of times the sequence of target instructions had been executed (col. 5 lines 5-6, in order to know a block is "repeatedly executed" the system inherently is counting the number of times the block is executed).

14. As to claim 8, it does not teach or define above the invention claimed in claim 1 and is therefore rejected under Krishnaswamy for the same reasons set fourth in the rejection of claim 1, supra. Additionally, Krishnaswamy taught a means for selecting a stored translate sequence of instructions (fig. 2, 19).

15. As to claim 9, Krishnaswamy taught that the means for interpreting was an interpreter software executing on the host processor (fig. 2, 21, col. 5 lines 59-61) and that the means for translating was dynamic translation software executing on the host processor (fig. 2, 22, col. 7 line 66 to col. 8 line 2).

16. Claims 6-7 are rejected under 35 USC § 103 as being unpatentable over Krishnaswamy, U.S. Patent 6,308,318, as applied to claims 1-5 and 8-9, supra.

17. As to claims 6 and 7, Krishnaswamy did not teach that the statistics gathered included addresses of target locations of branches or the likelihood of a branch being taken. Krishnaswamy did however indicate that the interpreter was gathering profile information (col. 5 lines 47-50), including information related to which blocks of code were hot (col. 5 lines 50-52). Additionally, Krishnaswamy taught that the blocks of code were basic blocks (col. 6 lines 16-19). As is well known in the art, profile information commonly includes information related to the target addresses of branches taken, as well as the frequency and likelyhood of a branch being taken and official notice of such is hereby taken. It would have been obvious to a

person of ordinary skill in the art at the time the invention was made to have utilized the well known profile information of destinations of branches and likelyhood of branches being taken within Krishnaswamy's system because both of these values relate to determining how frequently a block of code will be executed, or it's "hotness" (i.e., code that is branched to more often will be executed more frequently, and branches that are more likely taken will result in the destination being executed more frequently than the not taken path of the branch), which is the parameter that Krishnaswamy wishes to derive in order to determine when to stop interpreting and to translate the code (col. 5 lines 50-56).

18. The prior art made of record and not relied upon is considered pertinent to Applicant's disclosure.

19. A shortened statutory period for response to this action is set to expire 3 (three) months and 0 (zero) days from the mail date of this letter. Failure to respond within the period for response will result in **ABANDONMENT** of the application (see 35 USC 133, MPEP 710.02, 710.02(b)).

20. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Richard Ellis whose telephone number is (703) 305-9690. The Examiner can normally be reached on Monday through Thursday from 7am to 5pm.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Eddie Chan, can be reached on (703) 305-9712. The fax phone numbers for this Group are: After-final: (703) 746-7238; Official: (703) 746-7239; Non-Official/Draft: (703) 746-7240.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 305-3900.

Richard Ellis
May 7, 2003

Richard Ellis
Primary Examiner
Art Unit 2183